

1,1,1-TRICHLOROETHANE

Also known as: Methyl chloroform, 1,1,1-TCA
Chemical reference number (CAS): 71-55-61

WHAT IS 1,1,1-TRICHLOROETHANE?

1,1,1-TCA is a colorless liquid that evaporates quickly at room temperature. It's used as a metal degreasing and dry-cleaning solvent. It's also used to make other organic chemicals. 1,1,1-TCA can also be found in aerosol spray products found in the home. When 1,1,1-TCA enters the environment, it can seep into soil and groundwater or evaporate into the air.

HOW ARE PEOPLE EXPOSED TO 1,1,1-TRICHLOROETHANE?

Breathing: People can be exposed to 1,1,1-TCA when they inhale contaminated air. This is the most common type of exposure that occurs in the workplace. If people have contaminated drinking water in their home, they may be exposed to vapors when using water to cook, bathe, or do laundry.

Drinking/Eating: 1,1,1-TCA can enter the body when people drink contaminated water. Vegetables do not take up the chemical when they are grown in contaminated soil.

Touching: 1,1,1-TCA can be absorbed through the skin when people use products that contain the chemical, handle contaminated soil, or bathe in contaminated water.

DO STANDARDS EXIST FOR REGULATING 1,1,1-TRICHLOROETHANE?

Water: The state and federal drinking water standards for 1,1,1-TCA are both set at 200 parts per billion (ppb). We recommend that you stop drinking water that contains more than 200 ppb of 1,1,1-TCA. Contact your local public health agency for more information specific to your situation.

Air: No standards exist for the amount of 1,1,1-TCA that is allowed in the air of homes. We use a formula to convert workplace limits to home limits. Based on that formula, we recommend that levels of 1,1,1-TCA in air be no higher than 8.0 parts per million (ppm). Most people can't smell 1,1,1-TCA until the level is greater than 100 ppm. If you can smell the chemical, the level is too high to be safe.

The Wisconsin Department of Natural Resources regulates the amount of 1,1,1-TCA that can be released by industries.

WILL EXPOSURE TO 1,1,1-TRICHLOROETHANE RESULT IN HARMFUL HEALTH EFFECTS?

The following symptoms may occur immediately or shortly after exposure to a level of 1,1,1-TCA above 350 ppm in air:

- Irritation of the eyes, throat and nose;
- Headaches, nausea and dizziness;
- Loss of balance;
- Loss of consciousness;
- Heart beat irregularities; and
- Drop in blood pressure.

The following health effects can occur after several years of exposure to 1,1,1-TCA:

Organ Systems : Liver, lung, and brain damage can result from long-term or high-level exposures.

Cancer: Animal studies show that exposure to 1,1,1-TCA is not likely to cause cancer.

Reproductive Effects : Laboratory studies show no effect on reproductive systems or the developing fetus.

In general, chemicals affect the same organ systems in all people who are exposed. However, the seriousness of the effects may vary from person to person.

A person's reaction depends on several things, including individual health, heredity, previous exposure to chemicals including medicines, and personal habits such as smoking or drinking.

It is also important to consider the length of exposure to the chemical; the amount of chemical exposure; and whether the chemical was inhaled, touched, or eaten.

CAN A MEDICAL TEST DETERMINE EXPOSURE TO 1,1,1-TRICHLOROETHANE?

For those individuals with frequent or potentially high-level exposures, liver function tests and neurological examinations may be performed. A medical evaluation that includes a careful history of past and present symptoms will provide a basis for future health exams.

Seek medical advice if you have any symptoms that you think may be related to chemical exposure.

This fact sheet summarizes information about this chemical and is not a complete listing of all possible effects. It does not refer to work exposure or emergency situations.

FOR MORE INFORMATION

- Poison Control Center, 800-815-8855
- Your local public health agency
- Division of Public Health, BEH, 1 West Wilson Street, Rm. 150, Madison, WI 53701-2659, (608) 266-1120 or Internet: <http://www.dhfs.state.wi.us/eh>



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